

Amendments to the Specification

Paragraph [0002] starting at page 1, line 20 and ending at line 25 has been amended as follows.

[0002] Many efforts have been made for high-resolution images by using smaller recording liquid droplets in ~~in-jet~~ ink-jet recording apparatuses. In one proposed recording apparatus, ink of the same color is ejected at a plurality of amounts to form an image to satisfy both a high-definition requirement and a high-speed recording requirement.

Paragraph [0032] starting at page 9, line 5 and ending at line 17 has been amended as follows.

[0032] The carriage 2 is supported by guide shafts 3 in a manner such that the carriage 2 is reciprocated along the guide shafts 3. The guide shafts 3 extend in a main scan direction of the head cartridge 1 and are secured to the body of the recording apparatus. The carriage 2 is driven by a driving mechanism including a motor pulley 5, a driven pulley 6, and a timing belt 7. The driving mechanism is ~~drive~~ driven by a main scan motor 4. The carriage 2 is thus controlled in position and movement by the main scan motor 4. A home position sensor 30 is disposed on the carriage 2. The position of the carriage 2 is thus known at the moment the home position sensor 30 of the carriage 2 passes by a blocking plate 36.

Paragraph [0040] starting at page 12, line 14 and ending at line 19 has been amended as follows.

[0040] The above recording heads ~~is~~ are grouped as a head cartridge 1. In the head cartridge 1, each recording head contains a plurality of ejection nozzles. For example, the recording head 100C1 contains cyan ink ejecting nozzles 110, and the recording head 101SC1 contains small cyan ejecting nozzles 111.

Paragraph [0041] starting at page 12, line 20 and ending at page 13, line 4 has been amended as follows.

[0041] The nozzle group in each recording head is arranged in a line generally perpendicular to the main scan direction. Occasionally, the nozzle group may be arranged in a line slightly ~~slant~~ slanted relative to the main scan direction, rather than being perpendicular to the main scan direction, in relation to an ink ejection timing. Alternatively, the nozzle group may be aligned in parallel with the main scan direction. Specifically, the recording heads 100C1, 101SC1, 102M1, 103SM1, 104Y1, 105Y2, 106SM2, 107M2, 108SC2, and ~~109C~~ 109C2 are arranged in parallel with the main scan direction.

Paragraph [0052] starting at page 17, line 20 and ending at line 24 has been amended as follows.

[0052] To assign the dot matrix, one dot matrix may be selected from among a plurality of dot matrices based on a random number having a predetermined bit ~~numbers~~ number, or the dot patterns may be successively selectively switched by detecting the presence or absence of data in the raster.

Paragraph [0058] starting at page 20, line 4 and ending at line 14 has been amended as follows.

[0058] Fig. 7 illustrates an example of dot patterns in which the dot matrix is arranged according to size of the dot. Numbers 1 and 2 are assigned to the patterns the quantized data can take at each of the signal levels 0 through 3 before the quantized data is stored. A maximum of two patterns are assigned to the quantized data at a given level, and the patterns of dots different in size complement each other. In low to intermediate gradation ~~region~~ regions wherein the dots different in size coexist, in other words, dot matrices at level 1 and level 2 are used, the dots different in size are always separated.

Paragraph [0061] starting at page 21, line 18 and ending at page 22, line 2 has been amended as follows.

[0061] At level 3, the dot patterns of the large cyan dots and the small cyan dots are the same, and the dots different in size are overlapped ~~on~~ with each other. The level 3 signals ~~provides~~ provide a high recording density, presenting a satisfactory area

factor. There is no possibility that the density non-uniformities and streaks occur in the recorded image. In the first preferred embodiment, the small dots are not used at level 3 because the image recording is performed in accordance with the profile illustrated in Fig. 3.

Paragraph [0062] starting at page 22, line 3 and ending at line 10 has been amended as follows.

[0062] As shown in Fig. 11, the recording head with the recording elements symmetrically arranged in color is employed, whether to record data on a pixel ~~on~~ in the raster is preferably determined, one of number 1 pattern and number 2 pattern shown in Fig. 7 is successively selected, and the selected pattern is assigned to each pixel. In this arrangement, the frequency of use of each recording element in the recording head is distributed.

Paragraph [0070] starting at page 24, line 11 and ending at line 20 has been amended as follows.

[0070] As discussed above, the dot matrix ~~patterns~~ patterns are independently set on the colors of yellow, magenta, and cyan on a color by color basis. A dot pattern is selected from the plurality of dot patterns at the same level. The dots of the selected pattern are expanded in the expansion buffer 1004. In this way, the dots in the

pattern of the recording image used in low to intermediate gradation regions are separately arranged. Noisiness of image in ~~the~~ a secondary color (blue) having a low lightness and a high visibility is thus reduced.

Paragraph [0072] starting at page 25, line 5 and ending at line 17 has been amended as follows.

[0072] In addition to the patterns discussed in connection with the second preferred embodiment with reference to Fig. 8, the patterns of small dots of each color may be arranged as illustrated in Fig. 7. The large dot and the small dot of the same color are separately recorded, but the large dot and the small dot different in color are overlapped ~~on~~ with each other in recording. This arrangement overcomes the problem that the density non-uniformities and streaks ~~appears~~ appear in low to intermediate gradation regions in a particular color, and reduces noisiness in the secondary color in which substantially equal amounts of cyan and magenta inks are used. The present invention thus achieves improved image quality.